AMENDMENTS TO THE CLAIMS:

This listing of the claims will replace all prior versions, and listings, of the claims in this application.

Claims 7, 8, and 29-31 have been cancelled.

Listing of Claims:

1. (Currently Amended) A method for routing data packets in a wireless network, comprising:

estimating a link bandwidth of at least one network node;

calculating a connectivity metric based on the estimated link bandwidth, wherein the connectivity metric is defined as a ratio of a maximum link bandwidth to the estimated link bandwidth;

distributing information concerning the calculated connectivity metric using a routing protocol packet; and

using the calculated connectivity metric, ~~determining~~ to determine a route ~~having the a maximum link bandwidth and the a minimum traffic load~~.

2. (Original) A method as in claim 1, where estimating uses a model of a network medium access control MAC algorithm.

3. (Original) A method as in claim 1, where estimating uses a model of a Bluetooth network medium access control MAC algorithm.

4. (Previously Amended) A method for routing data packets in a wireless network, comprising:

estimating a link bandwidth of at least one network node;

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calculating a connectivity metric based on the estimated link bandwidth;

distributing information concerning the calculated connectivity metric; and

using the calculated connectivity metric, determining a route having a maximum link bandwidth and a minimum traffic load, where said connectivity metric comprises a ratio of a maximum link bandwidth to the estimated link bandwidth, where the maximum link bandwidth is the link bandwidth between a Master node and a Slave node when there is only one Slave node connected to the Master node.

5. (Original) A method as in claim 4, where determining the route comprises:

calculating the connectivity metric of links along a plurality of routes;

determining a maximum connectivity metric value of each of the plurality of routes; and

selecting the route having the smallest connectivity metric value.

6. (Currently Amended) A method for routing data packets in a wireless network, comprising:

estimating a link bandwidth of at least one network node;

calculating a connectivity metric based on the estimated link bandwidth;

distributing information concerning the calculated connectivity metric; and

using the calculated connectivity metric, determining a route ~~having a maximum link bandwidth and a minimum traffic load~~, where estimating includes considering a node's status and the number of the node's Slaves, where considering a node's status considers whether a node is a

Master node, a Slave node, or a Participant in Multiple Piconet (PMP) node, where a maximum link bandwidth B_0 is the link bandwidth between the Master and Slave nodes, when there is only one Slave node present in a piconet, and where all piconets have the same value of B_0, where M_i is the number of Slave nodes in piconet i, and P_i is the number of piconets that a PMP node connects to, and where B_i is the link bandwidth of the Master-Slave link in piconet i and where the connectivity metric B_i/B_o is determined at least in accordance with:

Master → Slave:
$$\frac{B_i}{B_0} = \frac{1}{M_i}$$

Slave → Master:
$$\frac{B_i}{B_0} = \frac{1}{M_i}$$

Master$_i$ → PMP (S/S) → Master$_j$:
$$\frac{B}{B_0} = \frac{1}{P_i} MIN(\frac{B_i}{B_o}, \frac{B_j}{B_o}) = \frac{1}{P_i} MIN(\frac{1}{M_i}, \frac{1}{M_j}),$$

and

Master$_j$ → PMP(S/M$_k$) → Slave:
$$\frac{B}{B_o} = MIN(\frac{1}{M_k + 1}, \frac{1}{M_i}).$$

7. (Cancelled).

8. (Cancelled).

9. (Currently Amended) A method for routing data packets in a wireless network, comprising:

estimating a link bandwidth of at least one network node;

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calculating a connectivity metric based on the estimated link bandwidth, wherein the connectivity metric is defined as a ratio of a maximum link bandwidth to the estimated link bandwidth;

distributing information concerning the calculated connectivity metric; and

using the calculated connectivity metric, determining a route ~~having a maximum link bandwidth and a minimum traffic load~~, where distributing information concerning the calculated connectivity metric comprises inserting the value of the connectivity metric into a routing protocol packet in place of the value of a hop number.

10. (Previously Presented) A method for routing data packets in a wireless network, comprising:

estimating a link bandwidth of at least one network node;

calculating a connectivity metric is defined as a ratio of a maximum link bandwidth to an estimated link bandwidth;

distributing information concerning the calculated connectivity metric; and

using the calculated connectivity metric, determining a route having the maximum link bandwidth and a minimum traffic load, where distributing information concerning the calculated connectivity metric comprises inserting the value of the connectivity metric into a routing protocol packet in conjunction with the value of a hop number.

11. (Currently Amended) A computer program embodied on a computer readable medium and comprising computer program code segments for use by at least one data processor when implementing a routing protocol in a wireless network, comprising:

a first computer program code segment for estimating the link bandwidth of at least one network node;

a second computer program code segment for calculating a connectivity metric based on the estimated link bandwidth, wherein the connectivity metric is defined as a ratio of a maximum link bandwidth to the estimated link bandwidth;

a third computer program code segment that uses the calculated connectivity metric to determine a route ~~having the a maximum link bandwidth and the a minimum traffic load~~; and

a further computer program code segment for sending information concerning a calculated connectivity metric to at least one other network node using a routing protocol packet.

12. (Original) A computer program as in claim 11, where said first computer program code segment uses a model of a network media access control algorithm.

13. (Original) A computer program as in claim 11, where said first computer program code segment uses a model of a Bluetooth network media access control algorithm.

14. (Previously Amended) A computer program embodied on a computer readable medium and comprising computer program code segments for use by at least one data processor when implementing a routing protocol in a wireless network, comprising:

a first computer program code segment for estimating the link bandwidth of at least one network node;

a second computer program code segment for calculating a connectivity metric based on the estimated link bandwidth; and

a third computer program code segment that uses the calculated connectivity metric to determine a route having a maximum link bandwidth and a minimum traffic load, where said second computer program code segment calculates said connectivity metric to be a ratio of a maximum

link bandwidth to the estimated link bandwidth, where the maximum link bandwidth is the link bandwidth between a Master node and a Slave node when there is only one Slave node in the network.

15. (Original) A computer program as in claim 14, where said third computer program code segment comprises computer program code for calculating the connectivity metric of links along a plurality of routes, for determining a maximum connectivity metric value of each of the plurality of routes and for selecting the route having the smallest connectivity metric value

16. (Currently Amended) A computer program embodied on a computer readable medium and comprising computer program code segments for use by at least one data processor when implementing a routing protocol in a wireless network, comprising:

a first computer program code segment for estimating the link bandwidth of at least one network node;

a second computer program code segment for calculating a connectivity metric based on the estimated link bandwidth, wherein the connectivity metric is defined as a ratio of a maximum link bandwidth to the estimated link bandwidth; and

a third computer program code segment that uses the calculated connectivity metric to determine a route having a maximum link bandwidth and a minimum traffic load, where said first computer program code segment considers a node's status and the number of the node's Slaves when estimating the link bandwidth of the node.

17. (Original) A computer program as in claim 16, where considering a node's status considers whether a node is a Master node, a Slave node, or a Participant in Multiple Piconet (PMP) node.

18. (Previously Amended) A computer program embodied on a computer readable medium and comprising computer program code segments for use by at least one data processor when

implementing a routing protocol in a wireless network, comprising:

a first computer program code segment for estimating the link bandwidth of at least one network node;

a second computer program code segment for calculating a connectivity metric based on the estimated link bandwidth; and

a third computer program code segment that uses the calculated connectivity metric to determine a route having a maximum link bandwidth and a minimum traffic load, where a maximum link bandwidth B_O is the link bandwidth between the Master and Slave nodes, when there is only one Slave node present in a piconet, and where all piconets have the same value of B_0, where M_i is the number of Slave nodes in piconet i, and P_i is the number of piconets that a PMP node connects to, and where Bi is the link bandwidth of the Master-Slave link in piconet i, and where the connectivity metric B_i/B_o is determined at least in accordance with:

Master → Slave: $$\frac{B_i}{B_0} = \frac{1}{M_i}$$

Slave → Master: $$\frac{B_i}{B_0} = \frac{1}{M_i}$$

Master$_i$ → PMP (S/S) → Master$_j$: $$\frac{B}{B_0} = \frac{1}{P_i} MIN(\frac{B_i}{B_o}, \frac{B_j}{B_o}) = \frac{1}{P_i} MIN(\frac{1}{M_i}, \frac{1}{M_j}),$$

and

Master$_j$ → PMP(S/M$_k$) → Slave: $$\frac{B}{B_o} = MIN(\frac{1}{M_k + 1}, \frac{1}{M_i}).$$

19. (Currently Amended) A computer program embodied on a computer readable medium and

comprising computer program code segments for use by at least one data processor when implementing a routing protocol in a wireless network, comprising:

a first computer program code segment for estimating the link bandwidth of at least one network node;

a second computer program code segment for calculating a connectivity metric based on the estimated link bandwidth, wherein the connectivity metric is defined as a ratio of a maximum link bandwidth to the estimated link bandwidth; and

a third computer program code segment that uses the calculated connectivity metric to determine a route ~~having a maximum link bandwidth and a minimum traffic load~~, where the value of the connectivity metric is inserted into a routing protocol packet in place of the value of a hop number.

20. (Currently Amended) A computer program as in claim 11, where the value of the connectivity metric is inserted into a routing protocol packet in conjunction with the value of a hop number, ~~wherein the connectivity metric is defined as a ratio of the maximum link bandwidth to the estimated link bandwidth~~.

21. (Original) A computer program as in claim 11, further comprising a computer program code segment for receiving information concerning a calculated connectivity metric from at least one other network node.

22. (Cancelled).

23. (Currently Amended) A mobile node comprising means for coupling to a wireless network, further comprising:

means for estimating the link bandwidth of at least one network node;

means for calculating a connectivity metric based on the estimated link bandwidth, wherein the connectivity metric is defined as a ratio of a maximum link bandwidth to the estimated link bandwidth;

means, responsive to the calculated connectivity metric, for determining a route ~~having the a maximum link bandwidth and the a minimum traffic load~~; and

means for sending information concerning the calculated connectivity metric to at least one other network node using a routing protocol packet.

24. (Previously Added) A mobile node as in claim 23, where said estimating means uses a model of a network media access control algorithm.

25. (Previously Added) A mobile node as in claim 23, where said estimating means uses a model of a Bluetooth network media access control algorithm.

26. (Currently Amended) A mobile node as in claim 23, ~~where said calculating means calculates said connectivity metric to be a ratio of a maximum link bandwidth to the estimated link bandwidth,~~ where the maximum link bandwidth is the link bandwidth between a Master node and a Slave node when there is only one Slave node in the network.

27. (Currently Amended) A digital data storage medium embodying a computer-executable program comprising operations of:

estimating a link bandwidth of at least one network node in a wireless multi-hop network using at least in part a consideration of a number of, and the role played by, other nodes that are coupled to the at least one node, where the role comprises one of a master (M), a slave (S), and a participant in multiple piconet (PMP);

calculating a connectivity metric based on the estimated link bandwidth;

distributing information concerning the calculated connectivity metric; and

using the calculated connectivity metric, determining a route in a load-balanced manner for a packet, where the connectivity metric comprises a ratio of a maximum link bandwidth to the estimated link bandwidth, where the maximum link bandwidth is the link bandwidth between a Master node and a Slave node when there is only one Slave node connected to the Master node.

28. (Cancelled).

29. (Cancelled).

30. (Cancelled).

31. (Cancelled).

32. (New) A method as in claim 1, where the value of the connectivity metric is inserted into a routing protocol packet in conjunction with the value of a hop number.

33. (New) A computer program as in claim 11, where the value of the connectivity metric is inserted into a routing protocol packet in conjunction with the value of a hop number.

34. (New) A mobile node as in claim 23, where the value of the connectivity metric is inserted into a routing protocol packet in conjunction with the value of a hop number.

35. (New) A digital storage medium as in claim 27, where the value of the connectivity metric is inserted into a routing protocol packet in conjunction with the value of a hop number.

36. (New) A digital storage medium as in claim 27, where the connectivity metric is used in

conjunction with a routing protocol metric.